



CENTER FOR CHILDREN'S ENVIRONMENTAL HEALTH RESEARCH

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Comments on the Recommendations in the Report of the NIEHS Review Panel on the Children's Environmental Health Centers

Dear Dr. Thayer:

I am writing to express my concerns and those of my colleagues from U.C. Berkeley about the recommendations of the Panel commissioned by NIEHS to review the Centers for Children's Environmental Health and Disease Prevention Research Program.

Over the past 10 years, the multidisciplinary Children's Centers have made significant scientific advances in our knowledge of prenatal and early childhood exposures to environmental toxicants such as pesticides, air pollution, metals, and endocrine disruptors. The Centers have contributed to our understanding of important environmentally-related diseases, including asthma, autism, birth defects, and neurobehavioral problems. We believe that the Review Panel's recommendations do not reflect the significant advances that the Centers have made over the past years. We fear that the Panel's recommendations will significantly weaken the ability of NIEHS to impact children's environmental health.

As acknowledged by the Panel, the greatest strengths of the Center program have been its community-based, longitudinal cohort studies of vulnerable populations and its translation of research findings to the public. The Panel states that "perhaps the greatest strength of the current Children's Center program lies in its use of population-based studies to address questions directly related to children's health." The Panel then recommends, however, that these programs be de-funded, made optional, and replaced by basic science research.

While we welcome an independent review of the Center mechanism (after 10 years, it is both necessary and appropriate), we have serious concerns about specific Panel recommendations:

1. Focus on basic science at the expense of population-based studies

The Panel recommends that the Centers be engaged more in basic science and "move beyond exclusive primary prevention". They recommend moving away from an emphasis on population-based studies of children in favor of laboratory-based science and development of therapeutics.

This recommendation fails to take into account how valuable the development of population-based cohorts is for elucidating the environmental causes of disease. It also fails to recognize

the value of continuing these cohorts as the children age. Among the issues the Panel feels are not adequately addressed by the Centers are “how life stage modifies the effect of exposure”, “early development effects on later onset disease”, and “endocrine and reproductive abnormalities”. The way to address questions like these is through longitudinal, population-based studies, not basic science.

Together, the Centers have followed an estimated 1,500 children from birth until pre-adolescence. Because the Centers came of age together, we are now able to pool data in ways that would not have been possible had we not started together, shared methodologies as we went, and published findings in the same time frame. Pooling data allows us to determine if results hold across different populations and to answer questions that require larger sample sizes, such as those pertaining to gene-environment interactions. It would be a mistake to let these carefully-followed populations flounder just as the children enter the beginning stages of puberty. There is much we can learn about adult onset disease by continuing these cohorts through this critical period.

The Panel recommends increased focus upon bioreposited data while minimizing the role the Centers have played in building such biorepositories and ignoring the complex multifactorial context in which the individuals who provide the specimens live. Additionally, the Panel fails to acknowledge the current balance of basic science and population-based research in the Centers. Basic science already forms the basis of our hypothesis-driven epidemiologic studies. Population-based studies have directly benefited laboratory-based research. Important findings about differing susceptibility to organophosphate compounds resulted from collaboration between molecular biologists and geneticists at our Center and the Center at University of Washington, and would not have been possible without the vast number of biological specimens collected as part of our Center’s birth cohort study.

2. *Making community-based participatory research (CBPR) optional and eliminating community outreach and translation cores (COTC).*

The Panel commends the Centers for “promoting the visibility of children’s environmental health”, “facilitating access to vulnerable populations” and conducting “successful community outreach, intervention and community actions”. We agree that these characteristics are part of what makes the Centers strong. The translation of scientific results through community outreach, interventions to reduce exposure, and policy initiatives should be an integral part of the Centers – not optional to be funded through other sources.

The Panel suggests that the Centers have too narrow a regional focus and perhaps too specialized a focus on vulnerable populations. Our choice to focus on a vulnerable and hard-to-reach population was scientifically-driven, however. The range of pesticide levels among pregnant women in our agricultural cohort is much wider than among the nationally-representative NHANES participants. The CPBR and COTC activities that are integral to engaging these niche communities of highly exposed families are also necessary to produce data with adequate power, through variability in exposure levels, to link environmental exposures to health outcomes.

The recommendation to make CBPR optional and eliminate COTC is no longer an acceptable philosophy in scientific research. Though it may have been appropriate 30 years ago, it is no longer appropriate to collect specimens for biological repositories without engaging and involving the participants and communities that provide them. In my 30 year career in environmental health research, which has evolved from basic science to population-based

research, I have witnessed increasing cynicism of communities who do not want to be “guinea pigs” for the scientific community. I would not consider it ethical to conduct research without engaging communities. The collection of our large biorepositories, which the Panel so values, would not have been possible without the active engagement of communities which CBPR and COTC allowed.

We urge continuation of the Children’s Centers and their focus on environmentally-related diseases that are important for America’s children. We are concerned that the Panel reflects a bias towards basic science and a lack of understanding of the necessity, challenges and values of population-based research, community outreach, and interventions to reduce exposures.

Sincerely,

A handwritten signature in black ink, appearing to read "Brenda Eskenazi". The signature is fluid and cursive, with a large, sweeping initial "B" and a long, horizontal stroke extending to the right.

Brenda Eskenazi, Ph.D.
Professor, Epidemiology and Maternal and Child Health
Director, Center for Children’s Environmental Health Research